

Amendments to the Specification

Please replace the title with the following new title:

METHODS FOR REDUCING SHEDDING OF A MICROBE BY AN ANIMAL

Please replace the paragraph beginning at page 14, line 7, with the following amended paragraph.

Preferably, the compositions of the present invention include low concentrations, more preferably, undetectable concentrations, of lipopolysaccharide (LPS). LPS is a component of the outer membrane of most gram negative microbes (see, for instance, Nikaido and Vaara, Outer Membrane, In: *Escherichia coli* and *Salmonella typhimurium*, Cellular and Molecular Biology, Neidhardt et al., (eds.) American Society for Microbiology, Washington, D.C., pp. 7-22 (1987), and typically includes polysaccharides (O-specific chain, the outer and inner core) and the lipid A region. The lipid A component of LPS is the most biologically active component of the LPS structure and together induce a wide spectrum of pathophysiological effects in mammals. The most dramatic effects are fever, disseminated intravascular coagulation, complement activation, hypotensive shock, and death. LPS plays a major role in the activation of various cell types, particularly those of lymphoid origin. This activation results in the production of an impressive array of endogenous mediators that, in turn, activate the complement system, impair mitochondrial function, activate lysosomal activity, stimulate ~~prostaglandin~~ prostaglandin activity, and cause macrophage cytotoxicity and tumoricidal activity. This non-specific immunostimulatory activity of LPS can enhance the formation of a granuloma at the site of administration of compositions that include LPS. Such reactions can result in undue stress on the animal by which the animal may back off feed or water for a period of time, and exasperate infectious conditions in the animal. In addition, the formation of a granuloma at the site of injection can increase the likelihood of possible down grading of the carcass due to scaring or

blemishes of the tissue at the injection site (see, for instance, Rae, Injection Site Reactions, available on the world wide web at animal.ufl.edu/short94/rae.htm ~~www.animal.ufl.edu/short94/rae.htm~~).

Please replace the paragraph beginning at page 21, line 13, with the following amended paragraph.

Another unexpected observation was that this method for obtaining SRPs and proins from a gram negative microbe also resulted in SRPs and porins containing low amounts of LPS. LPS is a potent immunostimulant, and when present in compositions that are administered to animals, especially mammals, can result in decreases in certain performance characteristics, and/or injection site reactions that can result in the downgrading of carcasses due to scaring or ~~blamishes~~ blemishes of tissue at the injection site. The ability to isolate SRPs and porins with low amounts of LPS results in decreased economic losses associated with administration of preparations from gram negative microbes. The decreased amount of LPS results in fewer condemned and/or downgraded carcasses at slaughter, and fewer decreases in performance characteristics.

Please replace the paragraph beginning at page 25, line 12, with the following amended paragraph.

In one aspect the invention is also directed to treating a gram negative microbial infection in an animal, and/or a gram positive infection in an animal. The method includes administering an effective amount of the composition of the present invention to an animal having or at risk of having a gram positive or a gram negative infection, and determining whether at least one symptom of infection ~~is mastitis~~ is reduced.